

II. Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A downhole tool for detecting a joint in a wellbore, comprising:
 - a housing having a first fluid passage therethrough and a second fluid passage, wherein fluid can flow from the first fluid passage to the second fluid passage, and fluid can flow from the second fluid passage to the wellbore;
 - a valve in the first fluid passage adapted to substantially block fluid flow through the downhole tool in a first direction and permit fluid flow through the downhole tool in a second direction; and
 - a movable cover module in the housing responsive to a first electrical signal to substantially block fluid flow from the first fluid passage to the second fluid passage.
2. (Original) The downhole tool of claim 1 further comprising a flow diverting module in the housing responsive to an increase in fluid pressure to substantially block fluid flow from the first fluid passage to the second fluid passage.
3. (Original) The downhole tool of claim 2 further comprising a collar locator module in the housing adapted to generate the first electrical signal in response to detecting a joint in a pipe string.
4. (Original) The downhole tool of claim 3 wherein the collar locator module comprises:
 - a coil in the housing;
 - a plurality of magnets disposed in the housing; and
 - a control circuit in the housing in electrical communication with the coil, wherein the control circuit generates the first electrical signal in response to a voltage induced in the coil by a joint disturbing a magnetic field produced by the magnets.
5. (Original) The downhole tool of claim 3 wherein the collar locator module comprises:
 - a giant magnetoresistive field sensor; and

a control circuit in the housing in electrical communication with the giant magnetoresistive field sensor, wherein the control circuit generates the first electrical signal in response to a second electrical signal from the giant magnetoresistive field sensor indicating the detection of a joint.

6. (Original) The downhole tool of claim 3 wherein the valve comprises a flapper valve hingedly coupled to the first fluid passage, wherein fluid flow in the first direction moves the flapper valve to a closed position to substantially block fluid flow through the downhole tool, and fluid flow in the second direction moves the flapper valve to an open position to permit fluid flow through the downhole tool.

7. (Original) The downhole tool of claim 3 further comprising:
a power source; and
a time delay circuit for preventing power from being communicated from the power source to the collar locator module and the movable cover module until after a preselected time.

8. (Original) The downhole tool of claim 2 wherein the second fluid passage comprises a nozzle to limit fluid flow through the second fluid passage.

9. (Original) The downhole tool of claim 2 wherein the movable cover module comprises: a piston disposed in the first fluid passage and adapted to move between an open position and a closed position, wherein in the closed position the piston covers the second fluid passage to substantially block fluid from entering the second fluid passage;
a spring to exert a biasing force upon the piston to maintain the piston in the open position;
and
a solenoid valve assembly, wherein the solenoid valve assembly places the first fluid passage in fluid communication with the piston such that fluid pressure in the first fluid passage causes the piston to move from the open position to the closed position in response to the first electrical signal.

10. (Original) The downhole tool of claim 2 wherein the flow diverting module comprises a cylindrical assembly positioned in the first fluid passage and adapted to move between an open position and a closed position, wherein in the closed position the cylindrical assembly covers the second fluid passage to substantially block fluid flow to the second fluid passage.

11. (Original) The downhole tool of claim 10 further comprising a shearing mechanism coupled to the cylindrical assembly and to the housing such that the cylindrical assembly is normally retained by the shearing mechanism in the open position, wherein the cylindrical assembly is movable from the open position to the closed position when the shearing mechanism is sheared at a predetermined force achievable by a first predetermined fluid pressure.
12. (Original) The downhole tool of claim 11 further comprising a rupture disk set to rupture at a second predetermined fluid pressure to allow fluid flow through the first fluid passage.
13. (Original) The downhole tool of claim 1 wherein the housing has an upper end adapted for connection to a length of coiled tubing, and the downhole tool may be moved within the wellbore in response to movement of the coiled tubing.
14. (Original) The downhole tool of claim 1 wherein the housing has a lower end in fluid communication with the first fluid passage, and the lower end is adapted for connection to other downhole tools.
15. (Original) A downhole tool for use in a wellbore, comprising:
 - a means for detecting joints in a pipe string;
 - a means for signaling the detection of joints in the pipe string;
 - a means for selectively allowing backwashing operations; and
 - a means for selectively allowing fracturing operations.
16. (Original) The downhole tool of claim 15 wherein the means for detecting joints comprises:
 - a magnetic means for inducing a magnetic field;
 - a sensing means for detecting changes in the magnetic field and for sending signals in response to a detection of changes in the magnetic field; and
 - a controller means for determining if the signals indicate the detection of joints in the pipe string.
17. (Original) The downhole tool of claim 15 wherein the means for signaling the detection of joints in the pipe string comprises:

a means for selectively allowing fluid flow in a fluid passage to flow through an exit port;
and

a means for selectively increasing fluid pressure within the fluid passage in response to detection of joints in the pipe string by stopping the fluid flow through the exit port.

18. (Original) The downhole tool of claim 17 wherein the means for selectively allowing backwashing operations comprises a valve means for substantially blocking fluid flow through the downhole tool in a first direction and permitting fluid flow through the downhole tool in a second direction.

19. (Original) The downhole tool of claim 15 wherein the means for selectively allowing fracturing operations comprises a means for selectively allowing fluid flow in a fluid passage to flow through an exit port.

20. (Original) A method of fracturing a well having a pipe string therein, comprising the steps of:

providing a joint-locating tool having a throughbore, wherein the tool comprises:

a collar locator module;

an exit port;

a one-way valve; and

a mode-switching module;

pumping fluid into the tool such that the tool operates in a joint-locator mode to detect the presence of joints in the pipe string;

inducing the mode-switching module to switch from the joint-locator mode to a fracturing mode; and

pumping fracturing fluid through the tool such that the well can be fractured.

21. (Original) The method of claim 20 wherein the inducing step comprises the step of increasing the fluid pressure within the throughbore such that the mode-switching module switches from the joint-locator mode to the fracturing mode.

22. (Original) The method of claim 20 wherein the inducing step comprises the step of blocking a fluid passageway to increase the fluid pressure within the throughbore such that the mode-switching module switches from the joint-locator mode to the fracturing mode.

23. (Original) The method of claim 20 further comprising the step of pumping fluid down the well annulus to operate the joint locator tool in a back-washing mode to remove debris in the well.
24. (Original) The method of claim 23 further comprising the step of moving the one-way valve into an open position to direct the fluid pumped down the well annulus and debris through the throughbore.
25. (Original) The method of claim 20 wherein the step of pumping fluid into the tool comprises the step of positioning the one-way valve into a closed position such that fluid entering the throughbore is diverted to the exit port.
26. (Original) The method of claim 25 further comprising the steps of:
detecting a joint with the collar locator module;
closing the exit port to increase fluid pressure within the throughbore to signal the position of the joint; and
opening the exit port.
27. (Original) The method of claim 20 wherein the inducing step further comprises the steps of:
increasing fluid pressure within the throughbore;
shearing a shearing mechanism in response to the increased fluid pressure;
moving a cover to block fluid flow to the exit port thereby further increasing fluid pressure within the throughbore; and
rupturing a rupture disk positioned in the throughbore to allow fluid to flow through the throughbore.
28. (Original) A method for removing debris from a well having a pipe string therein, comprising the steps of:
providing a joint-locating tool having a throughbore, wherein the tool comprises:
a collar locator module;
an exit port; and
a one-way valve;
pumping fluid into the tool such that the tool operates in a joint locator mode to detect the presence of joints in the pipe string; and

pumping fluid down the well annulus to operate the tool in a back-washing mode to remove debris in the well.

29. (Original) The method of claim 28 wherein the step of pumping fluid into the tool comprises the step of positioning the one-way valve into a closed position such that fluid entering the throughbore is diverted to the exit port.

30. (Original) The method of claim 29 further comprising the steps of:
detecting a joint with the collar locator module;
closing the exit port to increase fluid pressure within the throughbore to signal the position of the joint; and
opening the exit port.

31. (Original) The method of claim 28 further comprising the step of moving the one-way valve into an open position to direct the fluid pumped down the well annulus and debris through the throughbore.